

Title (en)

Torque converter comprising reversing gearing

Title (de)

Drehmomentwandler mit Wendegetriebe

Title (fr)

Convertisseur de couple comportant un train inverseur

Publication

EP 0864778 A3 19990107 (EN)

Application

EP 98301912 A 19980313

Priority

JP 6133397 A 19970314

Abstract (en)

[origin: EP0864778A2] A starting apparatus (12) is formed by a torque converter (15) provided between an engine (A) and a continuously variable transmission (3). A forward and reverse changeover apparatus (16) is formed by a double pinion type planetary gear. A reverse brake (19) is disposed around a ring gear of the planetary gear and a forward clutch (20) is mounted around the reverse brake (19). A lock-up clutch (21) is provided near the forward clutch (20). A torque converter case (14) encloses the torque converter (15), the forward and reverse changeover apparatus (16), the reverse brake (19), the forward clutch (20) and the lock-up clutch (21). Since the forward and reverse changeover apparatus (16), the reverse brake (19) and the forward clutch (20) are nested the overall width of the continuously variable automatic transmission can be minimised and the number of components can be reduced. <IMAGE>

IPC 1-7

F16H 47/08

IPC 8 full level

F16H 47/06 (2006.01); **F16H 3/60** (2006.01); **F16H 37/02** (2006.01); **F16H 45/02** (2006.01); **F16H 47/08** (2006.01)

CPC (source: EP US)

F16H 3/60 (2013.01 - EP US); **F16H 37/022** (2013.01 - EP US); **F16H 37/027** (2013.01 - EP US); **F16H 45/02** (2013.01 - EP US); **F16H 47/085** (2013.01 - EP US); **F16H 2045/0268** (2013.01 - EP US)

Citation (search report)

- [YA] DE 2948194 A1 19800626 - PIV ANTRIEB REIMERS KG WERNER
- [YA] FR 2273204 A1 19751226 - FERODO SA [FR]
- [DA] GB 2033029 A 19800514 - GKN TRANSMISSIONS LTD
- [DA] PATENT ABSTRACTS OF JAPAN vol. 10, no. 291 (M - 522) 3 October 1986 (1986-10-03)
- [DA] PATENT ABSTRACTS OF JAPAN vol. 95, no. 10 30 November 1995 (1995-11-30)

Cited by

EP0911545A1; CN106715958A; DE102004009261A1; EP1030081A1; US6066059A; EP0896894A3

Designated contracting state (EPC)

AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)

EP 0864778 A2 19980916; **EP 0864778 A3 19990107**; **EP 0864778 B1 20030528**; DE 69814955 D1 20030703; DE 69814955 T2 20031127; JP 3880681 B2 20070214; JP H10252860 A 19980922; US 6099428 A 20000808

DOCDB simple family (application)

EP 98301912 A 19980313; DE 69814955 T 19980313; JP 6133397 A 19970314; US 3259798 A 19980227